

Remarks

Claims 2-6 and 9-18 are pending.

Claims 17 and 18 have been amended to clarify that a) the parallel cooling belts (being parallel from the upper to the lower guide rollers) have a gap distance therebetween that is about constant, and b) the distance between the upper guide rollers is adjustable by horizontal displacement of at least one pair of the upper and lower guide rollers which varies the width of the filling gap and the gap distance between the two parallel cooling belts.

Support for the amendment is in the published application US 2007/0098861, for example, at [0024] (cooling belts 3a, 3b run in parallel, with the distance between them defining the thickness of the cheese strip 2), at [0026] ("The width of the filling gap and thus the thickness of the cheese strip 2 are adjustable via the distance of the guide rollers 4 and 6, whereby the strip is horizontally displaceable with the rollers 4b and 6b) and at [0025] (two upper guide rollers 4 arranged in parallel). Further support is in Fig. 1, which illustrates the parallel arrangement of the cooling belts 3a, 3b with a food strip 2 situated in the gap between the parallel cooling belts extending from the upper guide rollers 4a, 4b to the lower guide rollers 6a, 6b.

No new matter has been added by the amendments, which are intended merely to clarify language used in the claims and/or the subject matter claimed. The scope of the claims is intended to be the same after the amendment as it was before the amendment.

Objections to claims

The Examiner objected to the phrase "characterized in that" in the depending claims as being indefinite. The claims have been amended to replace that phrase with the term "wherein" or "further comprising."

Accordingly, withdrawal of this objection to the claims is respectfully requested.

Rejection of claims under 35 USC § 112(2)

The Examiner rejected Claims 17 and 18 under Section 112(2) as indefinite.

The Examiner questions how the upper guide rollers are adjusted based on Applicant's arguments in the previous response at page 12.

Claims 17 and 18 have been amended to clarify that the upper guide rollers are adjustable by horizontal displacement of at least one pair of the upper and lower guide rollers.

As described at [0026] of the published application US 2007/0098861, the thickness of the cheese strip 2 situated within the gap between the parallel cooling belts 3a, 3b can be adjusted by horizontal displacement of the upper and lower guide rollers 4b and 6b. See [0026] and Fig. 1 below (emphasis added).

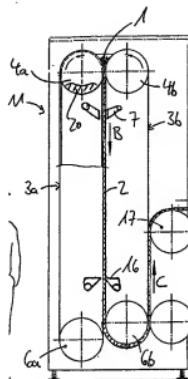


FIG. 1

[0026]...The width of the filling gap and thus the thickness of the cheese strip 2 are adjustable via the distance of the guide rollers 4 and 6, whereby the strip is *horizontally displaceable with the rollers 4b and 6b*.

It is submitted that the claims are clear in their meaning and satisfy the requirements of Section 112(2). Accordingly, withdrawal of this rejection of the claims is respectfully requested.

Rejection of Claims under 35 U.S.C. §103(a) (Fuji/Harrington)

The Examiner maintained the rejection of Claims 2-6, 8-15 and 17 under Section 103(a) as obvious over Fujii (US 2002/0027309) in view of Harrington (US 6,581,675). This rejection is respectfully traversed.

The Examiner argues that it would be obvious to replace the upper cooling rollers 21, 24 of Fuji with the pinch rolls 15, 17 of Harrington, which are described as having a gap that is adjustable.

First of all, the substitution of Harrington's pinch rolls 15, 17 in the place of the upper cooling rollers 21, 24 of Fujii would eliminate an essential element – the "elastic member" 18 of Fujii's cooling roller 21. Fujii particularly teaches the importance of the elastic member 18 on the cooling roller 21 for improved transfer of a mirror face and cooling of the thermoplastic resin sheet 11. See Fig. 2 (element 18) below and Fujii at [0030].

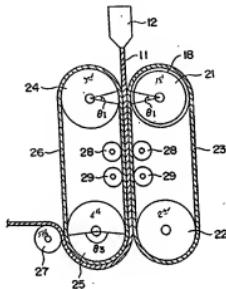


FIG. 2

[0030] In the present invention, the aforementioned molten thermoplastic resin sheet is touch-rolled on its face and cooled *with the elastic deformation of the aforementioned elastic member, resulting in the improved efficiency of the transfer of the mirror face and the cooling.*

The Examiner's proposed modification of Fujii would render Fujii's device unsatisfactory for its intended purpose and be contrary to Fujii's teachings.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984). In addition, the proposed modification cannot change the principle of operation of the reference being modified. If so, the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 123 USPQ 349 (CCPA 1959). See MPEP 2143.01.

The substitution of the pinch rolls 15, 17 taught by Harrington for the upper rollers 21, 24 in Fujii's apparatus would eliminate a roller bearing an elastically deformable sleeve as expressly taught by Fujii and, according to Fujii's teachings, would *significantly* alter the ability of Fujii's apparatus to achieve the stated objective of an improved transfer of a mirror face and cooling of the thermoplastic resin sheet 11.

Secondly, one skilled in the art would not replace Fujii's upper cooling rollers 21, 24 with the pinch rolls 15, 17 taught by Harrington.

The size, construction, function and location of the pinch rolls 15, 17 in Harrington's apparatus is similar to the paired rollers 28, 29 in Fujii's apparatus – being positioned midway between the upper guide rollers 21, 24 and the lower guide rollers 22, 25. See Fig. 2 of Fujii above. Both function to apply pressure onto a material at a central position between the upper and lower rollers of their respective apparatus. Therefore, one skilled in the art might arguably be motivated to substitute Harrington's pinch rolls 15, 17 for Fujii's paired rollers 28, 29.

Moreover, Harrington's pinch rolls 15, 17 are not structured as "*cooling* rollers." In fact, Harrington essentially teaches away from the use of cooling rollers in the background discussion at cols. 2-3, bridging paragraph, where he addresses problems in the use of twin drum casters structured with a pair of counter-rotating, internally cooled drums. One of Harrington's stated objects is to provide a twin-belt strip casting apparatus that applies a coolant to the belts and, instead of cooling rollers, Harrington teaches using cooling means 32, 34, such as spray-nozzles to spray a cooling fluid directly onto the belts. See at col. 3, lines 13-23, and at col. 6, lines 8-28.

Additionally, Harrington teaches that the nip 49 between pinch rolls 15, 17 exerts a compressive force that is "sufficiently high to insure *good thermal contact* between the cast metal strip and the belt" that is sufficiently high to cause *elongation* of the cast strip. See Harrington at col. 7, lines 27-50. There is no cooling mechanism associated with Harrington's pinch rolls 15, 17.

In contrast, Fujii teaches that the temperature of the cooling rollers 21, 22, 24, 25 is controlled so that the belts 23, 26 are kept at <50°C. See at [0084]. Fujii further teaches that the cooling rollers 21, 22, 24, 25 are provided with a "temperature adjustment means" (e.g., water-cooling type) for adjusting the temperature of the surface of the roller. See Fujii at [0082].

Harrington's pinch rolls 15, 17 are not structured with a cooling mechanism and the substitution of Harrington's pinch rolls 15, 17 would not provide the cooling function provided by Fujii's upper rollers 21, 24. Accordingly, one skilled in the art would not substitute Harrington's pinch rollers 15, 17 in the position of the upper *cooling* rollers 21, 24 of Fujii's apparatus.

Moreover, even if, *arguendo*, one were to modify Fujii as proposed, it would not provide Applicant's apparatus as claimed. Applicant's device as defined in Claims 17 and 18 requires:

- a) Parallel cooling belts with a gap distance therebetween that is about constant from the upper to the lower guide rollers, and
- b) The distance between the upper guide rollers being adjustable by horizontal displacement of at least one pair of the upper and lower guide rollers which varies the width of the filling gap and the gap distance between the two parallel cooling belts.

The adjustability of the distance between the upper guide rollers by the horizontal displacement of a pair of the upper and lower guide rollers ensures that the cooling belts are maintained in a parallel arrangement and at an about constant gap distance from the upper guide rollers to the lower guide rollers. And, the parallel arrangement and constant gap distance between the parallel cooling belts ensures that the thickness of the food product achieved by virtue of the width of the filling gap that is set between the upper guide rollers is not altered as it is subsequently cooled between the parallel cooling belts.

Neither Fujii nor Harrington discloses an apparatus having parallel cooling belts and the adjustability of the distance between the upper guide rollers as provided by Applicant's invention and required by the claims.

The Examiner has failed to establish a *prima facie* case of obviousness based on the combination of Fujii with Harrington.

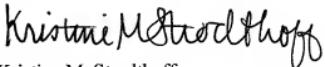
Fujii combined with Harrington does not teach or suggest Applicant's device as claimed. Accordingly, the Examiner is respectfully requested to reconsider and then withdraw this rejection of the claims.

Extension of Term.

The proceedings herein are for a patent application and the provisions of 37 CFR § 1.136 apply. Applicant believes that a one-month extension of term is required. Please charge the required fee (large entity) to Account No. 23-2053. If an additional extension is required, please consider this a petition therefor, and charge the required fee to Account No. 23-2053.

It is submitted that the present claims are in condition for allowance, and notification to that effect is respectfully requested.

Respectfully submitted,



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